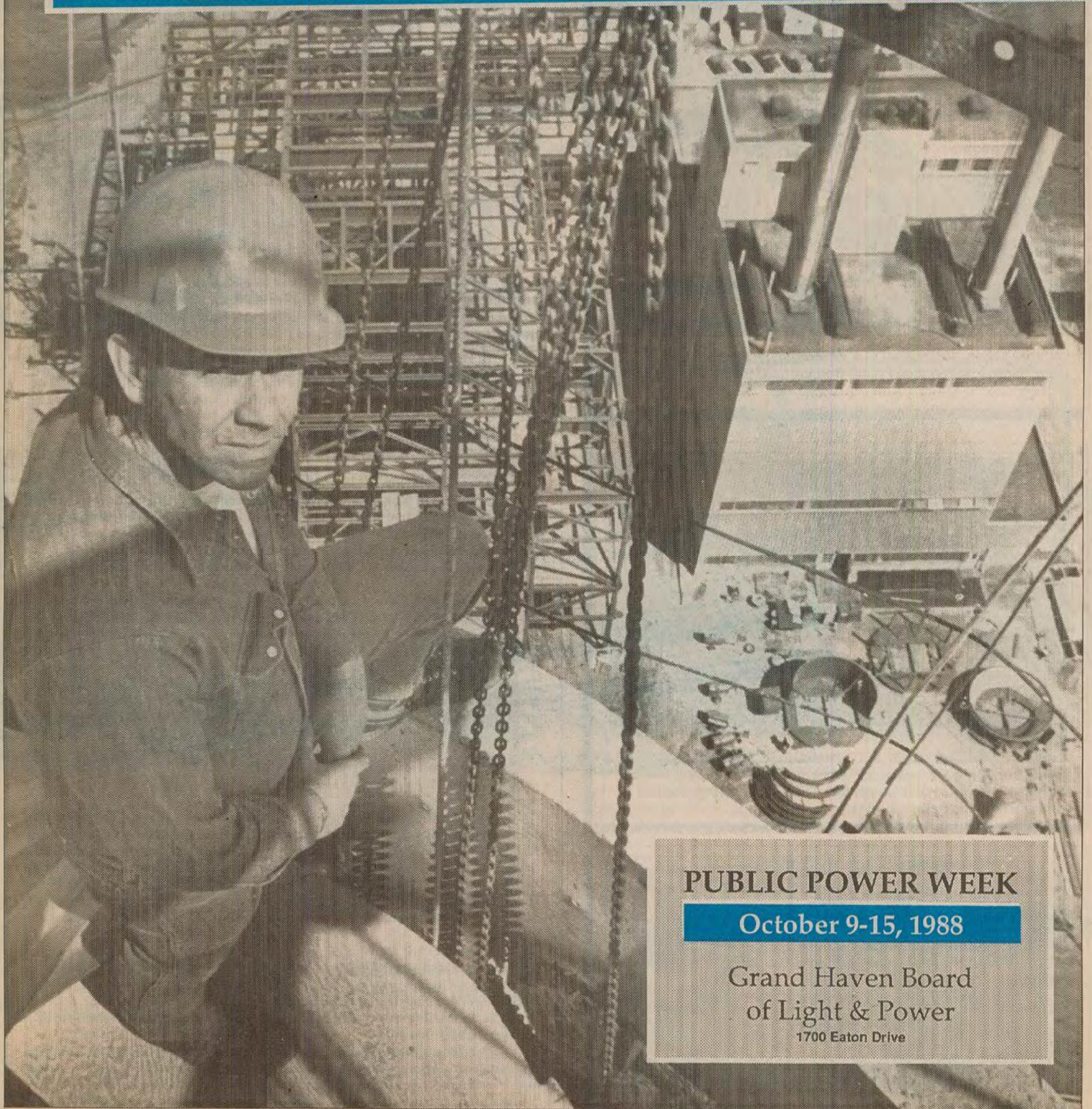


CELEBRATING

# PUBLIC POWER WEEK



**PUBLIC POWER WEEK**

**October 9-15, 1988**

Grand Haven Board  
of Light & Power

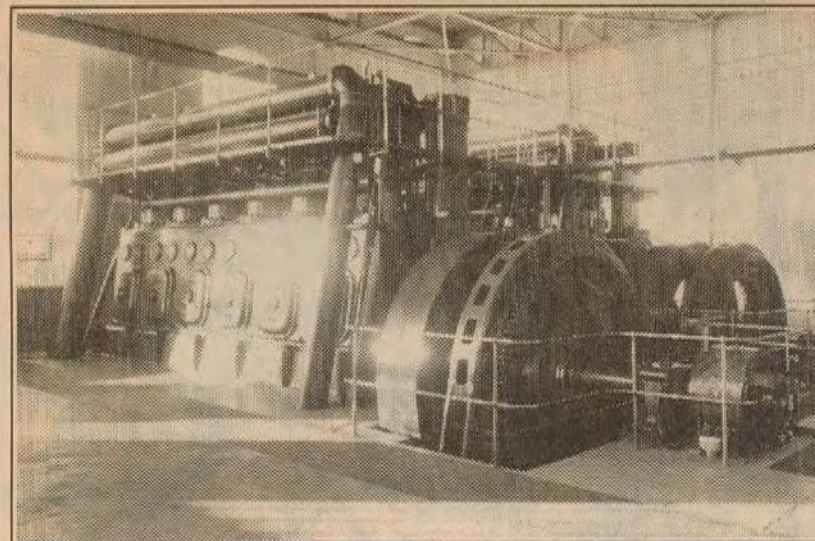
1700 Eaton Drive

# Yesterday...

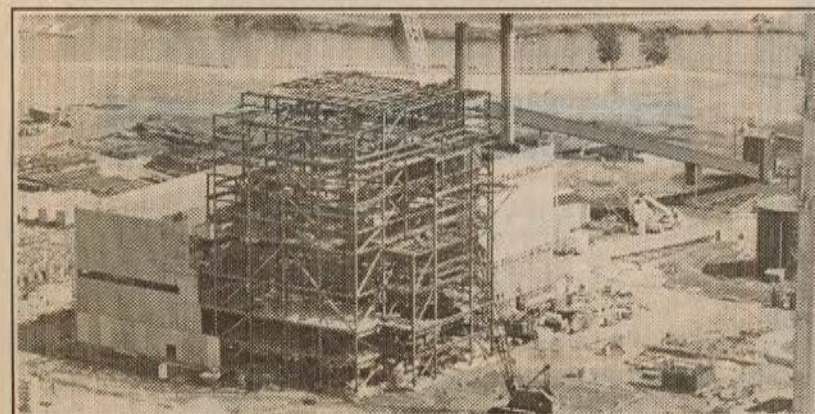
## 1896 - 1988



Pictured above, the original BLP generating facility on Harbor Drive, Grand Haven diesel plant (foreground) placed in operation in 1931.



Power from the past - Two DeLavernge Diesel engines powered 800 KW - 2400 Volt Elliot Generators. These generating plants were placed in operation in 1931.



Power for our future - Sims III plant and Harbor Island during construction in 1981.

**T**he electrical system for Grand Haven was established in 1896 when an election carried in favor of a \$10,000 bond issue to construct a new plant. In 1896 there was a big need for adequate street lights and power to pump city water to customers.

The first plant consisted of one 150 hp steam engine, electrical equipment, and a building for a total cost of \$9,985.85. Prior to this first plant, power was bought from the firm of Emlaw and Miller (1891 - 1896).

In 1915, the steam engine was replaced by a 500 kw turbine; in 1917 an additional 1000 kw turbine and 200 hp boiler were installed. Then in 1924-'25, a 250 hp boiler with stoker, a 1500 kw turbo generator, new switchboard and other electrical equipment were added for \$110,356 as power demand increased. One again, in 1927-'28, a 500 hp boiler and stoker, a Zeolite water system, a complete coal conveying system and boiler feed pump were added for a cost of \$54,589.00.

Only a year later, the load had increased to a point whereby additional generating equipment was needed and a committee was appointed to study the plant's future expansion plans. Their final recommendation was to install diesel oil engines.

At the same time, the City of Grand Haven was offered \$1.2 million dollars for the power plant and distribution system by Consumers Power Company. The offer was rejected in an election held in 1930 and the Board of Public Works was created to direct the operations of the municipal power system. That board is the present Board of Light and Power. The new board decided, after considerable study and planning, to install two diesel engines and build a new and separate plant at a cost of \$217,000. A third diesel engine was added in 1934 as it was necessary to operate both diesel engines sixteen hours daily and maintain steam at the old plant to keep power flowing around the clock.

As power demand continued to grow, more diesel units were added and Grand Haven's plant became one of the largest municipal diesel power generating stations in the United States.

In 1958, the Board voted to build a \$4.9 million dollar steam generating plant on Harbor Island (Sims I & II). Its capacity was 20,000 kw, 13,200 volts and the new plant carried the base load. All three of Grand Haven's plants were tied together into an electrical distribution system which used 13,200 volt double circuit loop through a new 20,000 KVA substation.

Over the next twenty years, the board studied future expansion possibilities while at the same time authorizing many improvements to the distribution systems, including a new 40 megawatt substation. Once the J.B. Sims II plant had been on line, and paid for, the value of the system had climbed to \$10 million dollars.

Then in 1979, the Grand Haven Board of Light and Power concluded three years of feasibility studies, projections and meetings to vote unanimously to recommend the Board build its own power generation facility on Harbor Island. This was to become the J.B. Sims Unit III Generating Station.

J.B. Sims III is a 65,000 kw gross steam turbine generator utilizing pulverized coal as the primary fuel source. The unit utilizes an electrostatic precipitator for particulate control, and a wet lime scrubber for sulfur dioxide emission control. Wire screens ten feet below the surface of the river provide for intake cooling water. The smokestack is 360 feet high. Unit III began commercial operation during the summer of 1983.

In line with the construction of Unit III, very little change had to be made in the distribution system with the exception of the construction of three substations, one on the Island, one on Sternberg Road with interconnection capability with both Wolverine Power Supply Cooperative and Consumers Power Company and one south of town with interconnection capability with Wolverine Power Supply Cooperative. These substations are remotely controlled and monitored from the Sims III plant's control room by a SCADA system. This makes it possible to reduce outage time and gives operating personnel continuous information on the status of the substation. Besides providing system backup, these substations also help stabilize voltages and load flows.

The Grand Haven Board of Light and Power continues to remain competitive and at the same time provide residents in the Grand Haven area with dependable service.

The Grand Haven Board of Light and Power is reviewing the feasibility of refurbishing Units I & II to provide power to other utilities and for Grand Haven's future needs. Other efforts made by the Board to maintain and improve service include the replacement of PCB distribution capacitors; switched and floating capacitor banks that keep the system's power factor at 90%; to reduce storm damage (a year around tree-trimming program is continued - the entire service area is covered in a five year cycle); voltage regulators are installed at various locations to keep voltage fluctuations at a minimum.

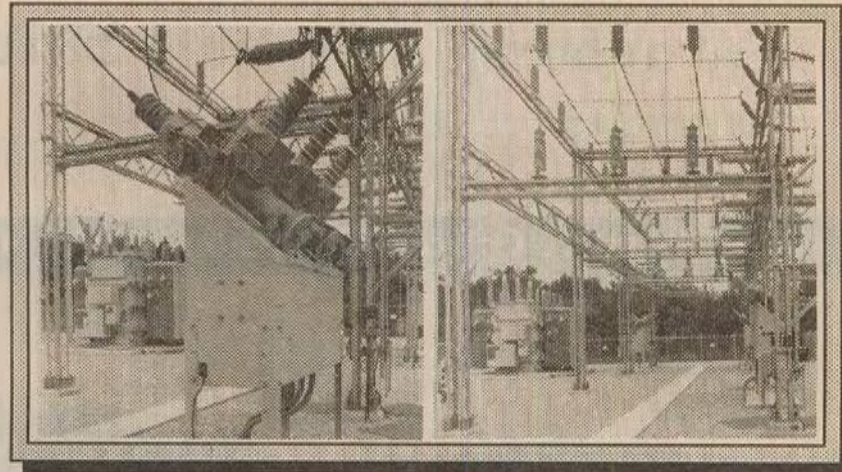
The Board of Light and Power, with the dedication of plant personnel, has been able to produce a marketable by-product - a high quality wallboard gypsum can be produced. This has proven to be an economical and ecologically safe alternative to landfilling or ponding, without sacrificing SO<sub>2</sub> removal. At the present time, J.B. Sims Unit III is the first and only coal fired plant producing a marketable by-product out of waste materials.

The Board has in the past, in the present, and will continue into the future its' dedication to the concept of public power; it has worked diligently to improve service to its customers/owners since 1896 and has represented an earnest effort to promote the concept of public power, while maintaining and improving our facilities.

# and today.

## Sternberg Substation

Sternberg Substation is the newest addition to the Board of Light and Power's transmission and distribution system. The substation which was completed in July, 1988, will provide up to 75,000 KW of power when Sims Unit III is scheduled for maintenance outages. The substation, which interconnects Consumer's Power with Wolverine Power Supply Cooperative (WPSC) transmission system, feeds the City of Grand Haven. This substation, in addition to the WPSC Blendon Township interconnection provides the Board of Light and Power customers with a north and south source of dependable power.

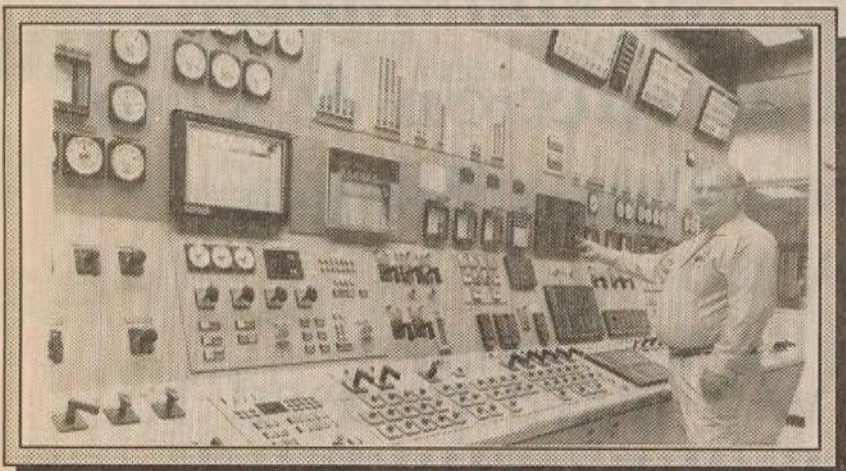
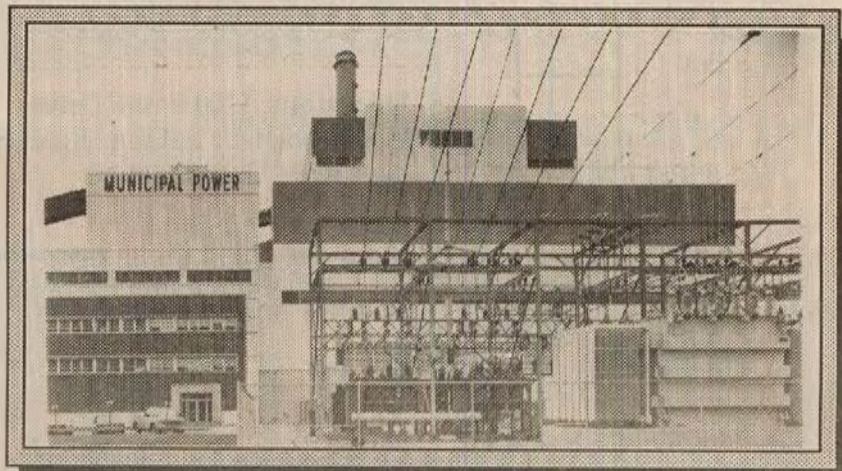


## Osipoff Substation (South Substation)

The Osipoff Substation provides power from the Sims III and Wolverine Power Supply transmission system for the southern one-third of the City of Grand Haven and the Grand Haven Township areas.

## Island Substation

A new transformer was placed in service in June 1988 to provide backup capabilities for the existing Island Substation transformer. This substation supplies power to North Shore, Ferrysburg, West Spring Lake and the City of Grand Haven.



## Sims Unit III Control Room

The Sims Unit III Control Room is the central Control Room for operation of the City of Grand Haven distribution circuits as well as the Sternberg and Osipoff substations. The Control Room is manned 24 hours a day and can meet immediate response to outages within the Grand Haven Distribution system. The interconnection substations and all distribution circuits are controlled from this area.

## Board of Light and Power Administrative Office and Service Building

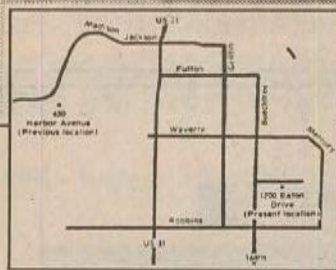
All Administrative, Executive, Clerical and Distribution service is handled from this new centrally located facility in Grand Haven. Line crew personnel stationed here have 15-minute access to all points of the Board of Light and Power distribution service areas.



Join us for our  
**OPEN HOUSE and GRAND OPENING**

Saturday, October 15, 1988 10:00 a.m.  
Free refreshments at both locations

**Administrative Office - 1700 Eaton, Grand Haven**

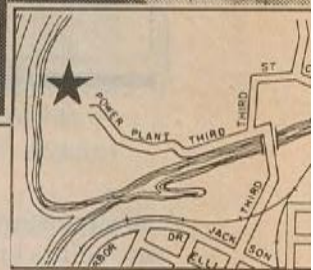
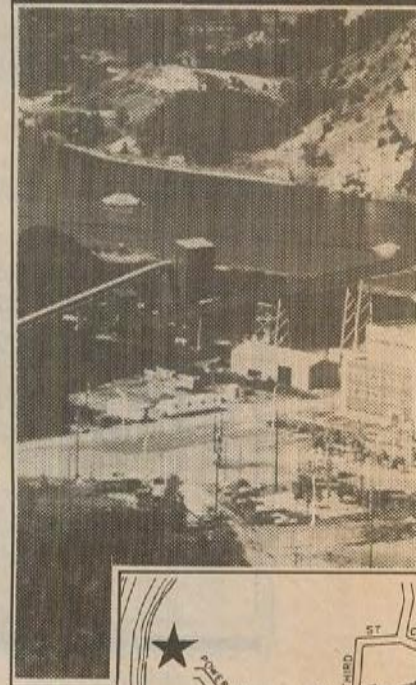


**Directions:** 1700 Eaton Drive - Three blocks north of Robbins Road East of Bechtree, Grand Haven.

**Administrative Offices Tours:**

- Bring along your account number and/or address and we will print a thirteen month history of your account.
- Stop in the Board room to view a short video on Sims III.
- See meters being tested in the Meter Department
- A bucket truck will be in the yard as well as an open pad-mount transformer and samples of materials used for underground installations.

**J.B. Sims General**



Best Wishes  
to the  
**Grand Haven  
Board of Light  
and Power**

on the completion  
of your new facilities

We are pleased  
to have been  
involved in this project

**CLIFTON ENGINEERING CO.**  
Three Rivers, Michigan  
(616) 278-1415

**Congratulations  
on your new  
construction & your  
Open House**

We were pleased to  
be selected as your  
Electrical Contractor

**Newkirk Electric**

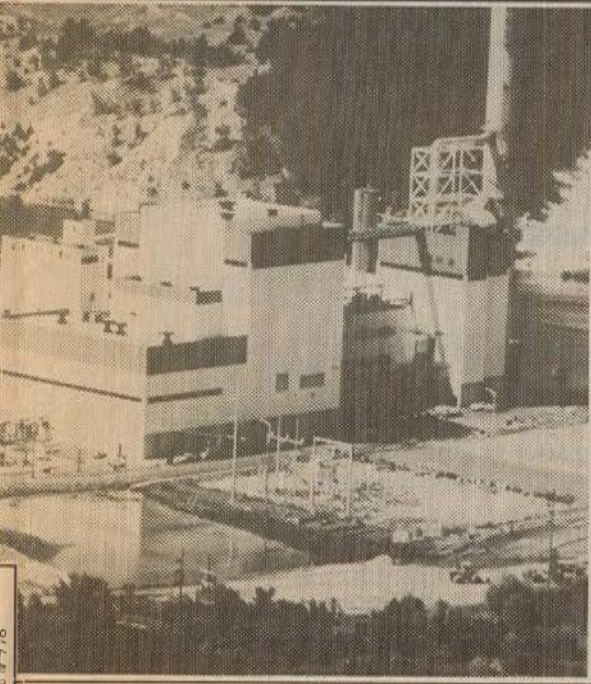
1875 Roberts St.  
Muskegon, MI 49442  
722-1691

# NG CELEBRATION

- 2:00 p.m.

ons!

ing Station - Harbor Island



**Directions:** Harbor Island - Take Third Street north from Downtown Grand Haven. Turn left after bridge to gate.

## Sims III Generating Plant Tours:

- Take an elevator to the third floor for a look at the turbine and control room.
- On the second floor you will be able to see the lab.
- Before you depart, the demineralizer, ash system, pulverizer, condenser and fans will be shown.
- Employees will be stationed at points of interest to answer your questions.

## *Congratulations!*

We're proud to be a part of the expansion Board of Light & Power

### **John Rossi Co.**

3470 3 Mile NW  
Grand Rapids, MI  
49504

453-5495

## *Congratulations*

We Are Proud to Have  
Been A Part of the  
**Grand Haven Board  
of  
Light & Power Project**

**TOP RAIL ELECTRIC CO.**  
Henderson Rd., Montague, MI

# Congratulations

## Grand Haven Board of Light and Power on your new Administrative Office facility.

Triangle Associates is proud to have acted as general contractor for the Board of Light and Power Administrative Office facility at 1700 Eaton Drive, Grand Haven.



ASSOCIATES INC.  
GENERAL CONTRACTORS  
Commercial • Industrial • Maintenance  
Design/Build Services

1560 N. Taylor, Grand Rapids 361-7303

# Our people...

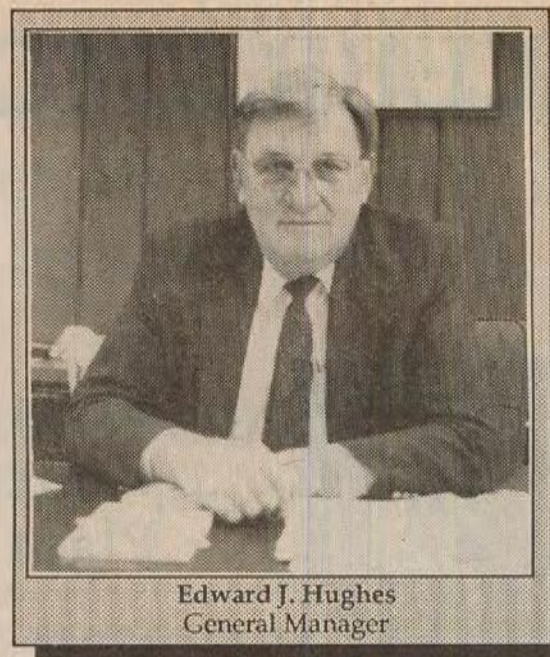
behind the scenes at the Board of Light and Power



Board of Directors  
Grand Haven Board of Light and Power

**Pictured above, from left to right:** Glenn W. Eaton, Jr. (Board member since 1973); Robert Akin (Board member since 1979); Chairman of the Board - John M. Montgomery (Board member since 1975); Roger Easton (Board member since 1982).

**Not pictured:** Emery Holzinger (Board member since 1975)



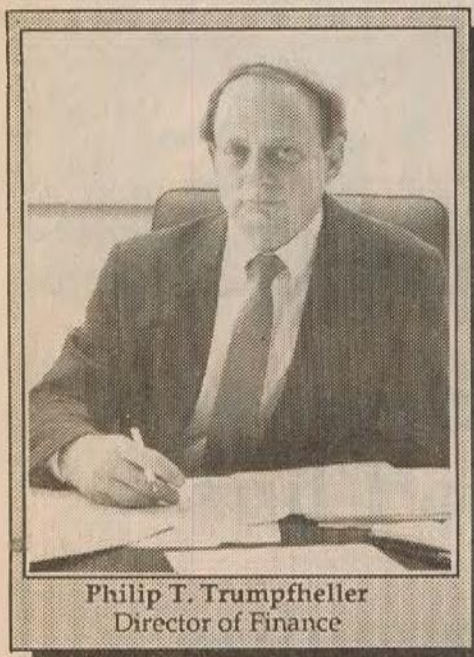
Edward J. Hughes  
General Manager

**Edward J. Hughes, P.E.**  
General Manager, Board of Light and Power

Ed Hughes, General Manager of the Grand Haven Board of Light and Power started his career in electrical engineering after graduating from Notre Dame with a Bachelor of Science degree in Electrical Engineering in 1950. Prior to assuming his present duties on July 1, 1985, Mr. Hughes was a consulting engineer with Lawson-Fisher Associates of South Bend, Indiana.

Mr. Hughes is a registered professional engineer in Indiana and Michigan and has been responsible for overseeing several engineering planning and construction projects including diesel and hydro electric power plants, 24.9kV to 138 kV transmission lines, substations and distribution systems.

Ed and his wife Patricia have 8 children and one foster child and 6 grandchildren. The Hughes family now lives in Grand Haven.



Philip T. Trumpfheller  
Director of Finance

**Philip T. Trumpfheller**  
Director of Finance

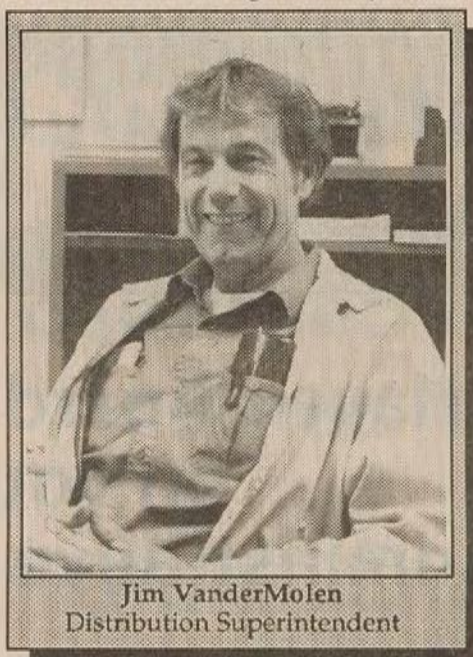
Mr. Trumpfheller has worked for the Grand Haven Board of Light and Power in the business office since 1977. Since 1983, he has held the position of Director of Finance where he is responsible for the accounting functions of the B. L. P., as well as office and electric billing and meter reading personnel.



James V. Morford  
Chief Engineer

**James V. Morford**  
Chief Engineer

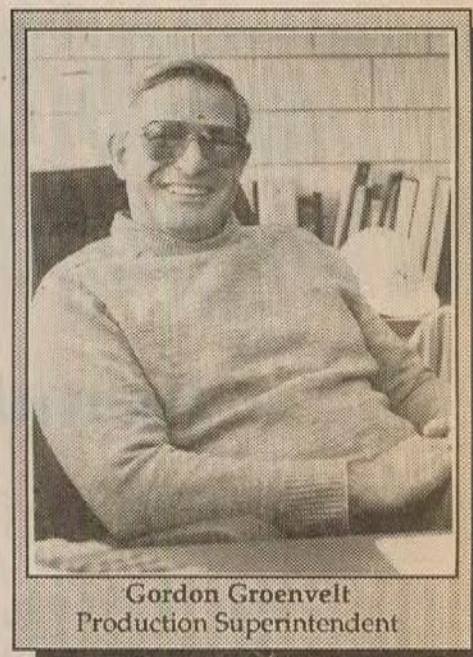
Employed by the Board of Light and Power since 1965, Mr. Morford started his career during high school with the Cooperative Program as a Meter Technician. Today, Jim is responsible for all Engineering functions of the Board of Light and Power including transmission, generation, distribution and the meter department.



Jim VanderMolen  
Distribution Superintendent

**Jim VanderMolen**  
Distribution Superintendent

Jim began his employment with the Board in 1953 as an apprentice line-man. He was promoted in 1970 to Line Foreman and again in 1983 to Field Superintendent. In 1985, Jim's title became Distribution Superintendent and is now responsible for the supervision of building and maintaining all overhead high voltage lines for the B.L.P. His department services all industrial, commercial and residential customers of the board.



Gordon Groenvelt  
Production Superintendent

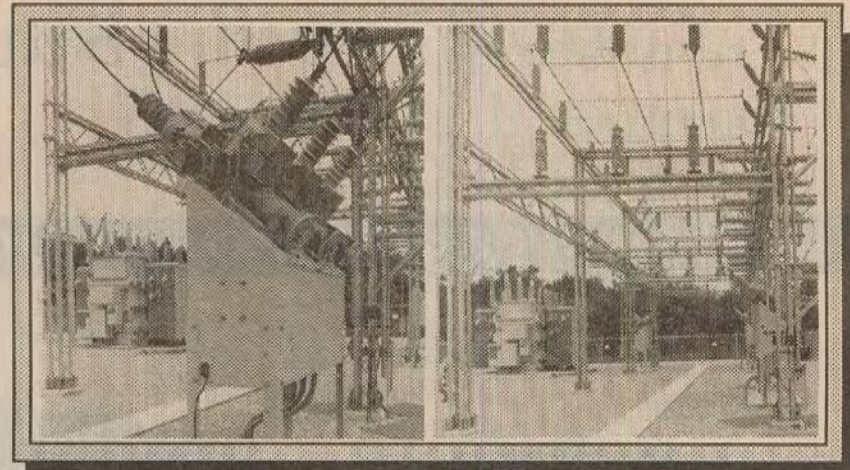
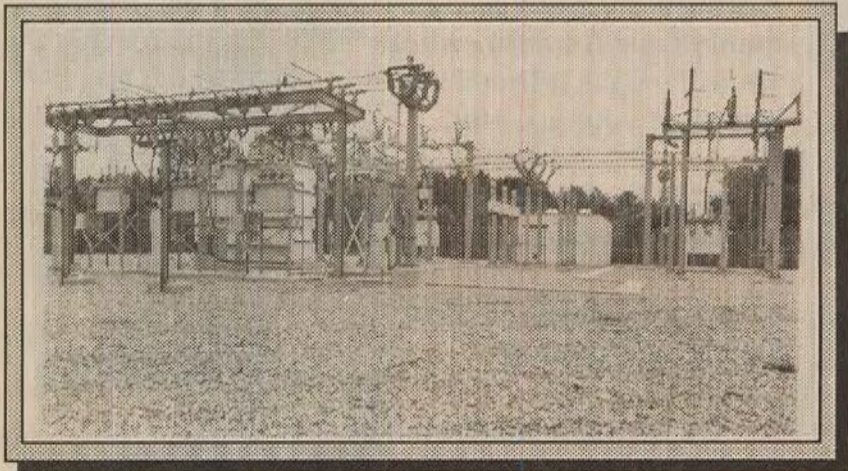
**Gordon Groenvelt**  
Production Superintendent

Gordon Groenvelt started with the Board of Light and Power in 1969 as a fireman at the Sims Generating plant. Mr. Groenveldt was directly involved in the construction and start-up of Sims III. In 1983, Gordon became Production Superintendent responsible for generating power at all of the Board's generating facilities and manages a staff of 43 employees.

# and today.

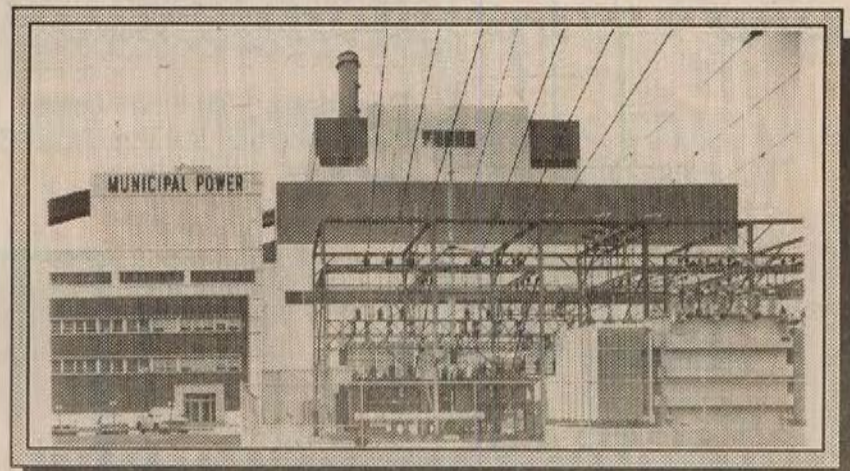
## Sternberg Substation

Sternberg Substation is the newest addition to the Board of Light and Power's transmission and distribution system. The substation which was completed in July, 1988, will provide up to 75,000 KW of power when Sims Unit III is scheduled for maintenance outages. The substation, which interconnects Consumer's Power with Wolverine Power Supply Cooperative (WPSC) transmission system, feeds the City of Grand Haven. This substation, in addition to the WPSC Blendon Township interconnection provides the Board of Light and Power customers with a north and south source of dependable power.



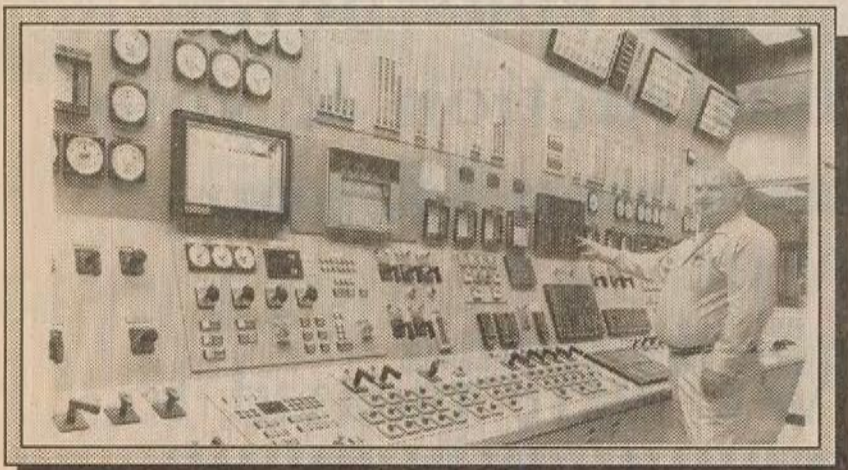
## Osipoff Substation (South Substation)

The Osipoff Substation provides power from the Sims III and Wolverine Power Supply transmission system for the southern one-third of the City of Grand Haven and the Grand Haven Township areas.



## Island Substation

A new transformer was placed in service in June 1988 to provide backup capabilities for the existing Island Substation transformer. This substation supplies power to North Shore, Ferrysburg, West Spring Lake and the City of Grand Haven.

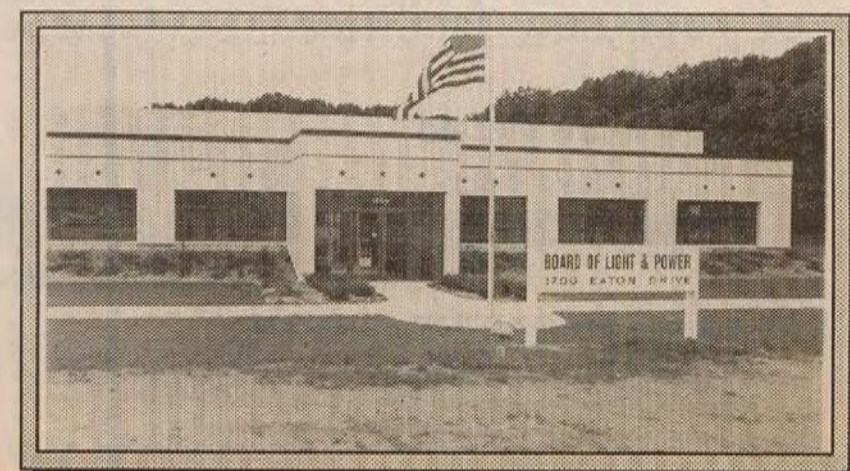


## Sims Unit III Control Room

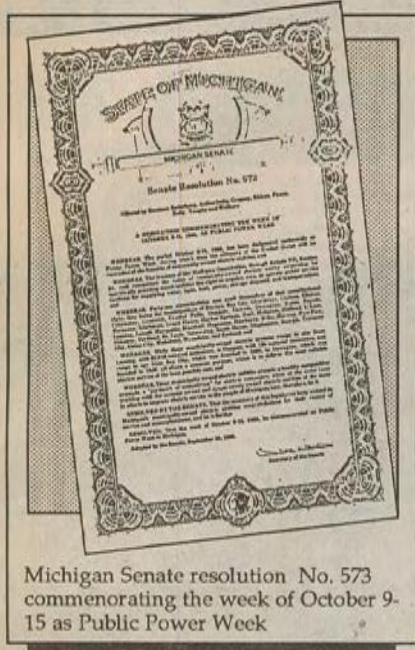
The Sims Unit III Control Room is the central Control Room for operation of the City of Grand Haven distribution circuits as well as the Sternberg and Osipoff substations. The Control Room is manned 24 hours a day and can meet immediate response to outages within the Grand Haven Distribution system. The interconnection substations and all distribution circuits are controlled from this area.

## Board of Light and Power Administrative Office and Service Building

All Administrative, Executive, Clerical and Distribution service is handled from this new centrally located facility in Grand Haven. Line crew personnel stationed here have 15-minute access to all points of the Board of Light and Power distribution service areas.



# Public Power Week spotlights achievements of Public Utilities



Michigan Senate resolution No. 573 commemorating the week of October 9-15 as Public Power Week

October 9 - 15 has been designated as the second annual Public Power Week in honor of the more than 2,200 governmental units throughout the nation that own and operate electrical generating and/or distribution systems. These utilities serve more than 14,027,536 customers.

In Michigan, there are 41 public power systems. Nineteen of these communities, including Grand Haven Board of Light and Power, are members of the Michigan Public Power Agency. The Agency, based in Grand Rapids, was formed in 1980 to assure an adequate supply of electrical energy at competitive costs for its members. Glenn W. Eaton Jr. is Grand Haven's Commissioner to the MPPA Board and he is also a member of the Executive Board.

Through MPPA, member cities have completed two projects, purchas-

ing ownership interest in two new coal-fired plants. The first was a \$44.37 million bond issue in 1981 to purchase a 4.8% ownership interest in the Consumers Power Company Campbell No. 3 plant in the Lake Michigan shore near Port Sheldon between Holland and Grand Haven.

In 1983 the Agency completed the purchase of a 37.22% ownership interest in the Detroit Belle River No. 1 generating plant in St. Clair. The bond issue - \$590 million - was the largest municipal issue ever completed in the state.

Since the bonds were sold, MPPA has taken advantage of lower interest rates in the past few years and has completed "advanced refunding" programs for both the Campbell and Belle River bonds. The advanced refunding will save MPPA member communities a total of \$15 million a year over the life of the bond issues - more than \$380 million.

In addition to buying power supplies from Consumers Power and Detroit Edison through MPPA, member cities also have the opportunity to obtain electricity from the Lansing Board of Water and Light. This saved participating members more than \$500,000 last year.

The Agency is also working toward developing a power pool among members who generate power. This program is progressing on schedule and is expected to be in operation early in 1989.

Recent projections indicate that MPPA members will be able to provide their customers with electricity at rates that are substantially lower than those available from other sources.

## Owner Operated.

If you're a public power consumer, you're also a public power owner. This makes a big difference in rates and service. Because public power is nonprofit, consumers and the community reap all the benefits. Because it's community owned, we all have a say in how it serves us. And, because it's locally controlled, public power helps set - and achieve - the economic and environmental goals of our community

Look at public power in a new light. After all, it's yours.

## How much does it cost to operate your electrical appliances?

It's not easy to give exact figures because there are so many factors involved. The efficiency of an appliance, where it is located, how it is used, and the condition of your home's wiring all make a difference. But we can provide you with some general guidelines to help you make wise decisions about using electricity.

Only a handful of electric appliances account for most of your electrical use. They include the range/oven, furnace, refrigerator, water heater, air conditioner, and clothes dryer. All the energy used by your blender, dishwasher, vacuum cleaner, hair dryer, and electric toothbrush account for less than one-third of the electricity used by your water heater over a year's time. For instance, an electric toothbrush will use less than one kilowatt-hour a year of electricity, which costs approximately 10¢.

### Estimated Kilowatt-Hours Used Annually

Food Preparation	kwh	Housewares	
Blender	1	Clock	17
Broiler	85	Sewing machine	11
Coffee Maker	140	Vacuum cleaner	46
Dishwasher	1570		
Frying Pan	100	<b>Heating and Cooling</b>	
Hot plate	90	Air cleaner	216
Microwave oven	190	Air conditioner	
Mixer	2	Central	5769
Range (with oven)	700	Room	1400
Roaster	60	Dehumidifier	618
Toaster	39	Electric blanket	60
Trash compactor	50	Fan	
Waffle iron	20	Attic	291
Waste disposer	7	Circulating	43
		Rollaway	138
		Window	170
<b>Food Preservation</b>			
Freezer (16 cu. ft.)	1190	Furnace (electric*)	23,360
(frostfree, 16.5 cu. ft.)	1820	Heater (portable)	180
Refrigerator/freezer (12.5 cu. ft.)	1500	Heat pump*	14,655
(frostfree, 17.5 cu. ft.)	2250	Heating pad	12
		Humidifier	163
		Water heater	6740
		*50,000 Btus per hour, 2080 heating load per year.	
		(Heat pump efficiency will vary with local climate and dwelling design).	
<b>Lighting</b>			
Typical household lighting	1080		
<b>Laundry</b>			
Clothes dryer	1110		
Iron	60		
Washing machine	103		
<b>Entertainment</b>		<b>Health and Personal Care</b>	
Radio	86	Hair dryer	25
Radio/record player	109	Heat lamp	13
Television		Shaver	0.5
19", black and white	150	Sunlamp	16
19", color	366	Toothbrush	1

### What is a Kilowatt-Hour?

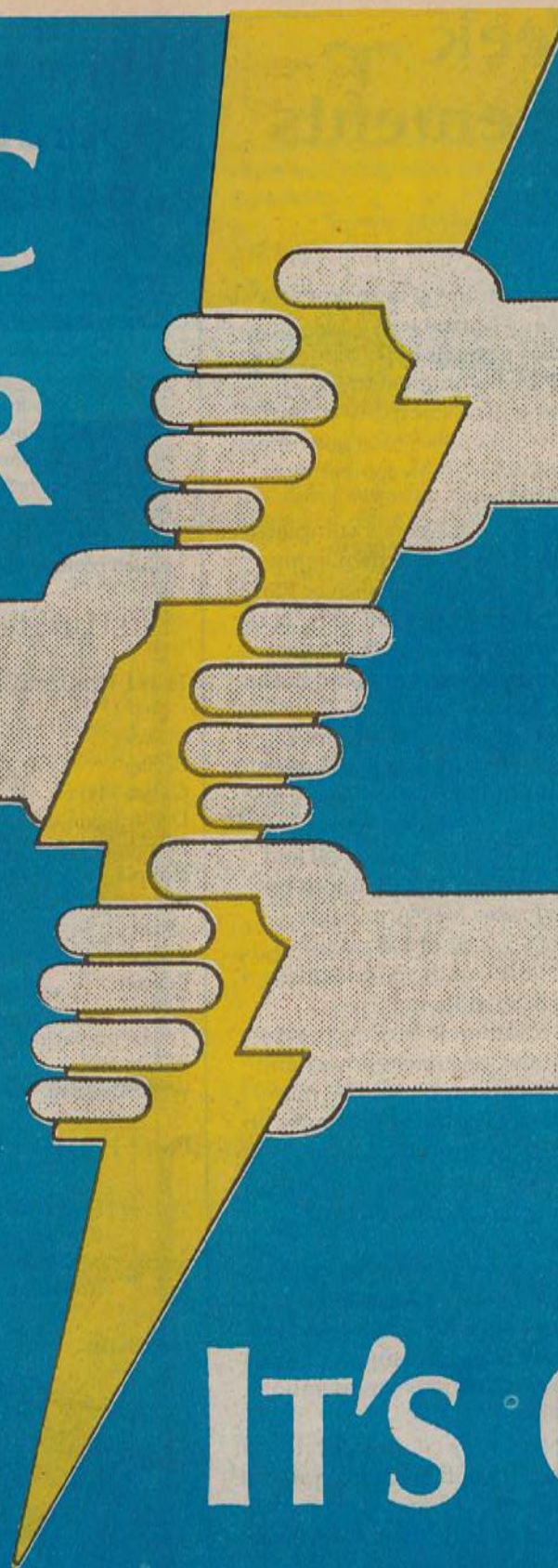
A kilowatt-hour is a measurement for electricity use. It is the amount of electrical energy needed to operate a 100-watt lightbulb for ten hours. Your electric bill indicates the exact number of kilowatt-hours you used as determined by a reading of your electric meter. The dollar amount of your bill is based on this number of kilowatt-hours.

For more information about your power needs,

call one of our customer service representatives at 846-6250 or stop by our offices at 1700 Eaton Drive, Grand Haven.



# PUBLIC POWER



# IT'S OURS

Our electric utility is community-owned, locally controlled and not-for-profit. Public power keeps policy and service in your hands. That's worth celebrating all year long.

**Public Power Week**  
**October 9-15, 1988**



The Grand Haven  
**Board of Light and Power**